User Manual

（UDT-TK04 GPS/GSM Personal Tracker）

V 2.0

1.1 Brief Introduction

The UDT-TK04 GPS/GSM Persona Tracker sing satellites to calculate its precise location and both GSM and GPRS technology for communications.

The tracker is also a non-dialing emergency 2 way mobile phone which can be used to summon help or assistance.A mobile phone, not supplied, is required to communicate and control this tracker. It suitable for kids, elder family members, and even your pets

1.2 Caution

1.2.1

Please read this handbook carefully before use the tracker

1.2.2

The picture in this user manual may be different with the real products. Please consult our representative for detail of engineering change

2 Technical Specification

2.1 Key Features:

- Built-in JRC/SIRF III Chipset, excellent for fixing the position even at a weak signal status. Work well under limited bad weather condition.
- Built-in GSM/GPRS module, support Dual or Quad band GSM 900/1800 MHz (850/1900 Optional)
- Support SMS communication or GPRS TCP connection.
- Get the position information via mobile phone SMS, log on to server for tracking via GPRS
- Raise alert through SOS button, send out exact location for immediate rescue/action.
- Portable, compact size. Low power Consumption, automatically turn off GPS once the holder stop moving for 5 minutes.
- Use as mobile phone, call the tracker for two two way communication. The tracker use could also hold SOS button to call controller.
- Remote listening. Hear the voice on tracker side without interfere him/her
- Support geo-fence. Raise warning when it out of a restricted area.
- Built in battery,continue work for 16. Stand by time up to 72 hours (When GPS turn off)

2.2 Specification

GSM module	MTK program, GSM 900/1800/850/1900 dual-band or quad-band Support the TCP protocol
GPS Chipset	JRC/SIRF III high sensitive chipset
GPS sensitivity	-164dB
C/A Code	1.023MHz chip rate
Channels	20 channel all-in-view tracking
GPS frequency	L1,1575.42MHz
GPS Position Accuracy	2.5 meters,CEP
Velocity Accuracy	0.1m/s
Time Accuracy	Synchronized to GPS time
Default datum	WGS-84
Hot start	1sec.,average
Warm start	30 sec.,average
Cold Start	35 sec, average
Altitude Limit	18,000 meters (60,000feet) max.

Others:

Operating temperature	-20°C－65°C
Humidity	5%To 95% Non-condensing
Dimension	88mm×46mm×18mm
Voltage	12V
Average Current When stand-by	<84mA

2.3 Package

1）UDTTK-04 Personal Tracker

2）USB Cable

3) Home Charger

3）Car charger (Optional)

2.4 Device Interface

2.5 LED State Description

Blue LED--- GSM signal status

Status	Description
constant lighting	no SIM card or not GSM network
flash once every 8s	GSM network stand by
flash quickly	Call or SMS incoming

Red LED: Battery status

Status	Description
Constant Lighting	Charging
Quick Flash	Low Battery

Green LED--- GPS signal status

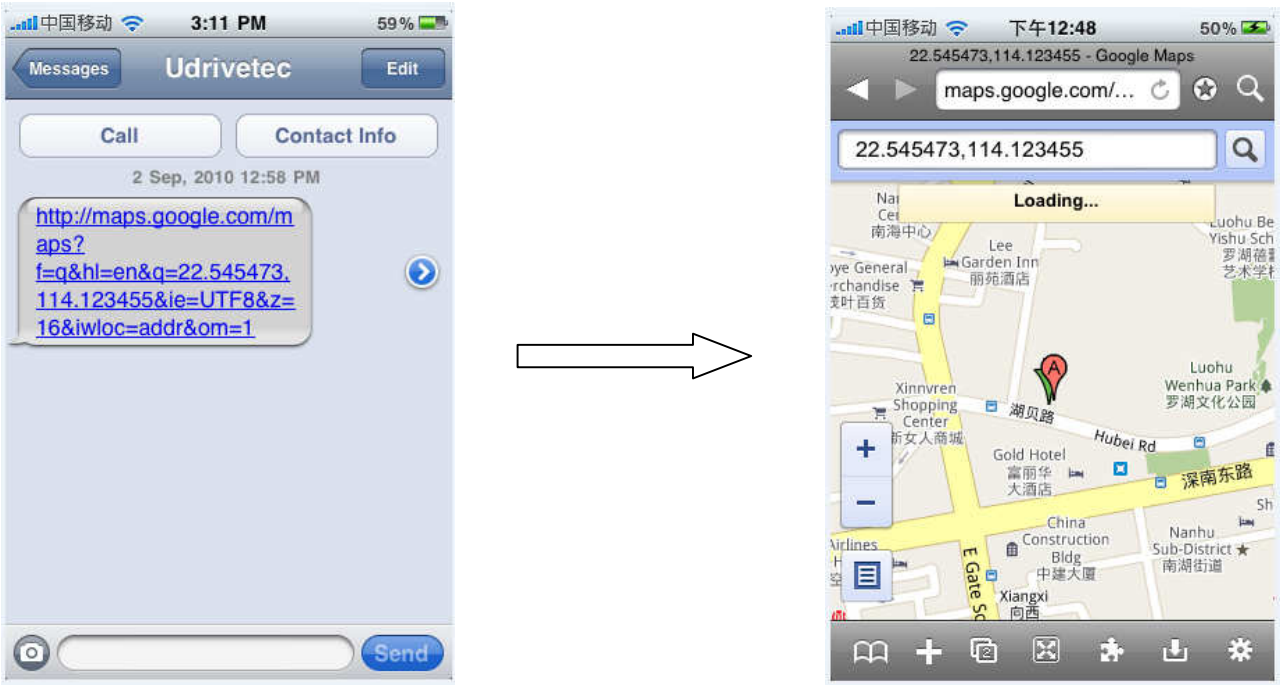
Status	Description
constant Lighting	Connecting to satellite
Flashing	Connected

2.6 Easy Tracking by SMS: (Google Map URL Link)

1. Put in SIM card and install device properly.
2. Set up controller phone number, send sms command format *controller mobile phone number*0000*1** , For example *12345678*0000*1**. "12345678" is your phone number which use to send this command to tracker. “0000” is default user password, “1” is sequence of controller number.

* Device only accept others setting command from controller phone, make sure complete this step before start others setting.

3. Request location coordinate by SMS 6680000, click on the google map URL address, browser will pop out and show device location on Google map . Your phone must be GPRS enabled, otherwise please do SMS tracking on step 4.



2.7 Tracking by GPRS on Web :

- **GPS Real-Time Tracking by GPRS Setting:**

1) Insert a GPRS enabled SIM card into the tracker.
2) Set up a ***controller phone number***, by sending an SMS command format:
   controller mobile phone number*0000*1*.

   For example, ***12345678*0000*1**.**

   "12345678" is the controller phone number which is used to configure the tracker

   "0000" is default user password

   "1" is one of the 3 authorized ***controller phone numbers*** currently defined.

3) Activate GPRS mode by sending an SMS command: **7100000**
4) Define your Mobile Phone service provider's APN, command **#803#0000#APN Name#User name#password##**.
   Note: For the APN without user name and password, please use command **#803#0000#APN Name##**

5) Instruct Tracker to send GPS Data to Server Fixed IP, such as **61.144.222.116**
   By sending an SMS command: **#804#0000#61.144.222.116#2332##**

6) Setup user name, **#801#0000#Your SIM Number (excluded country code)##**
7) Setup upload interval while ACC ON, **#805#0000#60#1##**. 60 means GPS data is uploaded at every 60 seconds interval.
8) Setup upload interval while ACC OFF, **#809#0000#3600#1##**. 3600 means GPS data is uploaded at 1 hour interval.
9) Log in www.udrivetrack.com (or **wap.udrivetrack.com**) with valid "UserName" and "Password"

3.1 SMS MODE

The device use SMS command to do configuration. It will reply related message once it get

"instruction".

3.1.1 Switch tracker to SMS Mode

Format：700+ user password (4 figures)

eg: 7000000

Explanation：When UDT-TK04 tracker receives the SMS and confirms the user password correctly, it switches to SMS application mode. (SET MODE OK, CURRENT MODE: SMS P2P)

3.1.2 Set up the user password

Format: 777+new password (4 figures) +old password (4 figures)

eg: 77712340000

Explanation: When UDT-TK04 tracker receives the SMS and confirm the user password correctly; change access to new password. tracker will reply confirmation messages (SET USER PASSWORD OK) to the sender.

3.1.3 Setup controller phone number

Format: * controller phone number4-20 figures * user password (4 figures) *Sequence number (1-3) **

eg: *13900000000*0000*1**

Explanation: Controller number use to manage the tracker, it is necessary to setup at least one controller number, maximum 3 number can be store. When UDT-TK04 tracker receives the instruction and confirms the user password correctly, tracker will reply confirmation messages (SET USER NUMBER (1-3) OK)

3.1.4 GPS status setting

GPS can be set up to ON, OFF and Power Saving Mode.

3.1.4.1 ON the GPS

Format: 222+user password (4 figures)

eg: 2220000

Explanation: When UDT-TK04 tracker receives the instruction and confirms the user password correctly, open GPS power. Tracker will reply confirmation messages (GPS ON OK) to the sender.

3.1.4.2 Off GPS

Format: 333+ user password (4 figures)

eg: 3330000

Explanation: When UDT-TK04 tracker receives the instruction and confirms the user password correctly, off the GPS. Tracker will reply confirmation messages (GPS OFF OK) to the sender.

3.1.4.3 GPS on Power-saving mode

The UDT-TK04 contains a vibration sensor to monitor if the vehicle is move. When the vibration sensor function is turned on, the GPS function is automatically turned ‘off’ to preserve vehicle battery life.

This feature can be used, as an example, when leaving your vehicle for extended periods at an airport car park or if you are going away on holiday without the vehicle.Once the vibration sensor is triggered, the UDT-TK04 will re-start the GPS location function.

Format: 100+ user password (4 figures)

eg：1000000

Explanation: The traclkr will switch on motion sensor and off the GPS module, reply confirmation messages (VIBRATION SENSOR ON OK) . The tracker built in vibration sensor, once monitors the car start move, GPS will be ON.

3.1.5 Request Longitude and latitude by SMS

Format: 666+ user password (4 figures)

eg: 6660000

Explanation: When UDTTV01 tracker receives the instruction and confirms the user password

Data format:	**Sample Message:**
Lat: Latitude (+/-)	Lat:+22.54619
Long: Longitude (+/-)	Long: +114.12378
Speed: Speed KM/H	Speed: 0.00KM/H
Direction: Direction	Direction: 315.00
Date: Date YYYY-MM-DD	Date: 2008-04-25
Time: Time HH：MM：SS	Time: 16:39:45
BS: GSM Base Station information	BS: 25ee0dff
Fix: Location state (A/V)	Fix: A (A mean received GPS signal, V mean the low GPS signal, inaccurate position)
ID: IMEI	ID: 353686009002030
STATE: Tracker Status	STATE: SMS

correctly, reply longitude and latitude as data format below:

.

While GPS does not detect satelite signal, it reply SMS as below:

ERROR GPS GPRMC FRAME DATA

BS: 27971054”

ID: 353686009002030

STATE: SMS

3.1.5 A Time Zone Setup

The time column on 3.1.5 show timing under GMT 0 timezone, you can change to your local time zone :

Format: 896+password+ E/W X

E.g.: 8960000E12

Explanation: E - Eastern time zone, "GMT +" . W - Western time zone, "GMT -". When tracker receive the command , it will change time zone in location sms (take example like 666 command reply). Tracker will reply confirmation message "time zone: Western/ Eastern xx"

3.1.6 Setup SMS tracking interval

Format: 4 xx + user password (4 figures)

eg: 4010000

Explanation: Setup the tracker send location message to controller phone by certain interval , setup as below Reporting time is in either minutes or whole hours.

Minute time range is 04-60

Hour time range is 61~99, For example 62 = 2 hours, 99 = 39 hours

3.1.7 Report by Voice Call or SMS

Format: 150 + user password (4 figures)

eg: 1500000

Report SOS and Geo-fence warning by SMS only. Tracker will reply message "SET VOICE

CALL: OFF" to the sender

Format: 151 + user password (4 figures)

eg: 1510000

Explanation: Report SOS and Geo-fence warning by SMS and Voice Call . Tracker reply "SET VOICE CALL: ON" to the sender.

3.1.8 Make telephone call to device

Any one of controller phone could make telephone call to the device. The tracker will ring and vibrate as mobile phone. Holder could click SOS button for pick up call. If the holder not pick up within 16 seconds, controller will be able listen the voice on tracker side.

3.1.9 Request Location by miss call

Call the tracker with controller phone. Hang up after 2-5 rings, location message will be send to the controller phone, show STATE: CALL

3.1.10 SOS

When press the SOS button more than 10 seconds, it will send the location information (as 3.1.5) to 3 telephone numbers stored in advance, the information state item automatically updates STATE: SOS. By the way, call the first controller phone number. If it is unsuccessful (mobile off, out of coverage or no response), starts calling the second and so on.

Note: If the controller phone is off, location message will still send to the phone.

3.1.11 On/Off vibration and ringtone (Remote listening)

Format: 000+ user password

Switch ringtone ON.

Format 2: 001 + user password

Switch Ring Sound Off. After Ringtone disabled, device automatically connect to control phone after 10 Seconds ring in

3.1.10 Geo- Fence

Geo-fence – restricting area of permitted movement

You can restrict movement to within a certain area by setting up a ‘geo-fence’.

A geo-fence is defined by the latitude and longitude centre-point of where it is and a permitted radius of travel from that point. If the vehicle travels outside this area the tracker will make a telephone call to the mobile phone that set the geo-fence as an alert. It will also send an SMS text including ‘STATE: RS’ .

The tracker will repeat the above when the vehicle re-enters the geo-fenced area.

To set a geo-fenced area:

Command 1: Setup Geo-fence base point on certain Long and Lat.

Find the vehicles current location by sending a text message in the following format:

Format: 666 (Function) + password (0000)

For example: 6660000

The tracker will reply by SMS with its latitude & longitude location

Now send the text command which includes the vehicles current location;

Format 1: 003+ user password E/Wddd.dddddN/Sdd.dddddRz.z

e.g: 0030000E11406.0024S2233.4230R1.0

Explanation: E-- east longitude; W-- west longitude; N-- north latitude; S-- south latitude. In this example, uses E and N, please according to the actual geographical position choose corresponding coordinate form to set.

Command 2: Take current location as Geo-fence base point

Format: 005+user password+Rz.z

E.g: 0050000R1.0

Explanation: In the example, it take current location as base point, radius 1.0km as geo-fence area.

Tracker replies with “SET GEOFENCE OK”

Note: The geo-fence has to be turned ON before it will send you alert messages.

To turn the geo-fence on, send the text command: 211 (Function) + password

For example: 2110000

Tracker replies with ‘GEO-FENCE ON’

To turn geo-fence off, send the text command: 210 (Function) + password

For example: 2100000

Tracker replies with ‘GEO-FENCE OFF’

Once the tracker out of restricted area, it will reply a location SMS to controller phone, STATE: RS

3.13: Low Power Report

When the trackers nominal working voltage is lower than normal, it will alert all users 3 times at 1 minute intervals before it turns off. The alert will contain location information plus ‘STATE: LP’ - meaning low power.

3.2 GPRS Mode

In this mode, UDT-TK04 will send location info to server through GPRS by a specific interval. Data transfer by TCP/IP.

When GPRS mode start, only 666 command on SMS mode will still remain work, others text message report (ie: Geo-fence, SOS and etc) will be send through GPRS.

3.2.1 Switch to GPRS mode

Format：710+ user password (4 figures)

eg：7100000

Explanation: When UDT-TK04 tracker receives the SMS and confirms the user password correctly, it switches to GPRS, reply message (SET MODE OK，CURRENT MODE：GPRS) to the sender.

3.2.2 Set up the access point name (APN)

Format1：#803#user password#APN##

eg：#803#0000#CMNET##

Format 2：#803#user password#APN#APN user name#APN password ##

Explanation: Setup APN with Format 1 while that is no APN user name and password require for your mobile network. Use Format 2 while you need input user name and password to connect APN

Note: APN become CMNET after factory reset. APN is characters composed by 3 to 35 letters, numbers, dots (.) underscore (_) and connectors (-). APN user name and user password are respectively characters composed by 3 to 20 the numbers and letters.

3.2.3 Set up TCP/IP server IP address and port number

Format：#804#user password#fixed IP address # port ##

eg：#804#0000#119.147.23.100#2332##

Explanation: Setup GPRS data transmission IP address and port number，reply confirmation message "SET SERVER IP AND PORT OK"

3.2.4 Upload the location by GPRS

Format：#806#user password##

eg：#806#0000##

Explanation: Start data transmission to server, reply confirmation "START GPRS UPLOAD".

3.2.5 Data Upload Interval

Format：#805#user password# sampling interval T # the number of upload data each time N ##

eg：#805#0000#30#2##

Explanation: In the example,tracker collect GPS data every 30 second, upload data to server 1 minute (2 data collected).

Data collection interval 'T' , setting minimum 5 seconds , maximum 65535 second. Upload to server for every N data colleted, minimum interval is 1, maximum 50. If T*N<60, the device will automatically correct sampling interval T to meet the uploading constraints. Tracker reply message "SET GPS SAMPLING TIME AND QUANTITY OK" after receive the command

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4. Command List

Command	**Description**
700+ user password	SMS Mode
710+ user password	GPRS Mode
003+ user password E/Wddd.dddddN/Sdd.dddddRzzz.z	Set the scope of the fence (units of degrees) in two modes
100+ user password	Open power-saving function
150+ user password	Report with SMS
151+ user password	Report with voice call and SMS
211 + user password	Open Geo-fence restriction
210 + user password	Close Geo-fence restriction
222+ user password	Open GPS
333+ user password	Close GPS
4xx+ user password	Automatically report location by SMS according to interval
666+ user password	Report location
777+new password + old password	Change user password
000+ user password	Turn Off Ringtone
001+ user password	Turn On Ringtone
controller phone numbers user password *sequence**	Setup controller number
#801#user password # new user name##	Change the user name in GPRS mode

#802#user password # new service password # old service password ##	Change service password in GPRS mode
#803# user password #APN##	Set up access GPRS points in GPRS mode
#803# user password #APN#APN user name# APN password##	Set up access GPRS points in GPRS mode
#804#user password # fixed IP address # port ##	Set up TCP / IP server's IP address and port number in GPRS mode
#805#user password# sampling interval T # the number of upload data each time N##	Set up data upload interval in GPRS mode
#806# user password ##	Upload the current position in GPRS mode
*GTAS#	Read all settings